



Review: Edirol HQ-OR Orchestral 1.01 **by Rick Paul - 1st August 2003 -**



I suspect most songwriters and composers, independent of their main musical styles, if being completely honest, would have to admit they harbor secret, or not so secret, desires to hear their compositions realized by a full orchestra. Perhaps you, too, have done time "air conducting" imaginary musicians playing your tunes? Come on, fess up!

Unfortunately, not many of us have the budgets to hire a real orchestra, nor a large enough group of captive musicians ready, willing, and able to do it for fun. Or even if we do (any high school orchestra teachers out there?), they may not always be at our beck and call. Not to mention that, from past experience playing in large groups of musicians, I remember how bored we could get waiting for a conductor to tweak an arrangement that probably looked right on paper, and may well have sounded okay when the arranger or orchestrator tried playing as much of it as his ten fingers and piano skills could handle.

Film composers have long used MIDI samplers, sometimes racks full of them, to emulate a real orchestra. This allowed them to demonstrate their cues for producers and directors who couldn't "hear" an orchestra through a piano-only rendition, while saving money on the scoring stage by working most of the arrangement kinks out ahead of time. Recent advances in software samplers have made it possible to reduce the hardware footprint needed to do this, but the sample library investments needed to build a quality "soft orchestra", and the advanced playing techniques needed to get realistic parts, were, and often still are, daunting for "the rest of us". For our purposes, I'll define "the rest of us" as being those of us who don't spend enough time creating orchestral music, or who don't earn enough money from it, to justify the financial investment required to purchase high end collections or the time needed to learn the specialized playing techniques needed to use them.

Yet, for that "rest of us", lower end sample sets and other general purpose products such as General MIDI softsynths may not satisfy when the musical needs go beyond an orchestral flavor for pop tracks. There has been a void between the low end and/or general purpose "jack-of-all-trades, master-of-none" modules, and the high cost, specialized sample sets.

Enter Edirol, the desktop music production subsidiary of Roland Corporation, with their High Quality Software Synthesizer "Orchestral", or "Orchestral" for short. Orchestral is a mid-priced software synth, optimized for

orchestral simulations, but which is nevertheless extremely playable from the get go -- i.e. without needing to learn counter-intuitive key switching techniques.

We'll get to the specifics of *Orchestral* in a moment, but first it's full disclosure time: I've been a long time, generally very satisfied, user of Roland hardware products, from my first Roland synth (the pre-MIDI Juno 60 from around late 1983 or early 1984) to my original, and still current, MIDI interface (the absolutely-archaic-by-this-point MPU-401 with MIF-IPC card -- I originally installed it on an Intel 8086-based PC under MS-DOS 2.x or 3.x, and it still works on my current Athlon XP 1600+ system under Windows XP) to the many MIDI rack modules I've had over the years (e.g. MKS-20, JV-1080, U-220, etc.) to my long time primary keyboard controller (the Roland Rhodes MK-80). In recent years, though, I've started going down the software-only road when it comes to MIDI modules and effects (yep, I also had a Roland SRV-2000).

In the hardware world, my purchase decisions often came down to what the best general purpose module at any given point in time was. This was because I needed flexibility, and couldn't afford a huge rack full of specialized modules. In the software world I've generally based my decisions more on fit for a specialized function, and where the holes in my general coverage are at a given point in time. This is possible partly because of getting the actual hardware costs out of the picture, and partly because, if I need more of any given type of track, I can just use multiple instances of the softsynth in question -- no need to buy another identical instrument as I'd need to do in the hardware world. As such, Edirol's fairly general purpose high quality offerings to date, the General MIDI 2 HyperCanvas and the rhythm section (i.e. piano, guitar, bass, and drums) oriented SuperQuartet have not made it into my arsenal of software instruments. While their entry level Virtual Sound Canvas DXi2 came with SONAR, and proved useful for quick arrangement mockups, its more consumer-oriented sound quality rarely found its way to my final arrangements. As such, I went from having a very Roland-heavy hardware rack to having a practically Roland-free current setup -- only my keyboard controller and MIDI interface remained in frequent use.

Thus, it was with great anticipation that I undertook this review. Not only were orchestral instruments a key functional hole in my softsynth collection, but the idea of a non-entry level software synth coming from Roland/Edirol set the expectations bar pretty high. Would *Orchestral* measure up? Let's take a look.

The Basics



Orchestral is a software synthesizer that specializes in emulating orchestral instruments for classical and film/TV music. All the basic "food groups" you'd expect to be there are represented, including strings (e.g. violins, violas, cellos, double basses), brass (e.g. trumpets, trombones, French horns, tuba), woodwinds (e.g. flute, clarinet, oboe, bassoon), timpani, orchestral percussion (e.g. drums, cymbals, woodblock), and melodic percussion (e.g. xylophone, tubular bells, glockenspiel). With brass and strings there are both sections and solo instruments. Woodwinds only come in solo flavors.

Orchestral doesn't stop at the raw necessities, though. For example, the strings include harps, woodwinds include alto saxophone, brass includes not only trumpets, but also cornet and flugelhorn, and percussion comes in both orchestral (including gongs) and marching band varieties. What's more, the keyboard and percussion bank includes a very playable concert piano and harpsichord.

Extra sound sets for various articulations and instrument-specific playing techniques are included where applicable. For example, string sounds are provided with slow and fast bowing attacks as well as spiccato, pizzicato, and tremolo; and trombone section sounds include staccato and slides in addition to some other tone and attack speed variations.

In keeping with Roland instrument tradition, *Orchestral* provides a large number of highly usable presets (141 tones and 3 drum sets), while also leaving plenty of room for user programming (216 tones and 36 drum sets). With all these slots available for user programs, one might wonder what kind of programming a user might want to do on an instrument geared at simulating acoustic instruments. While some of us may prefer the instant gratification of the

presets, there is plenty of programming power available. This power can be harnessed not only for creative effect -- i.e. there's nothing forcing you to go for realism -- but also for creating variations of sounds that allow more realistically simulating a larger group of musicians from a smaller number of basic sounds.

Orchestral is multi-timbral -- up to 16 parts per instance -- and features up to 128 notes of polyphony. Of course, if you run out of either, you can always use additional instances since this is software -- assuming, of course, your computer is sufficiently powerful. Edirol has optimized Orchestral's performance for modern processors by supporting optimization interfaces such as Intel's SSE and AMD's Enhanced 3DNow! Technology, but a special "light load mode" is available for underpowered systems. Sampling resolution is up to 24-bit, 96kHz. Four audio outputs are available to DXi2 and VST 2.0 users who want extra mixing and/or processing control in their DAW.

DXi2 and VSTi plug-ins for Windows are supplied on a single CD-ROM, which also includes the Macintosh version of Orchestral. Since CakewalkNet looks primarily at products for the Cakewalk user community, and the DXi2 version of Orchestral is fully functional, I only installed that version initially, and used it exclusively for my testing with SONAR 2.2. However, a problem discovered with inserting the DXi2 version in Project5 V1.0.1 led me to install the VST version, which did not have the same problem. I subsequently discovered the problem, which resulted in softsynth visibility issues and could crash Project5 upon deleting the instance of Orchestral, only occurred if Orchestral DXi was inserted in an empty Project5 project, and that issue was easy to work around.

Orchestral's installation CD also includes 5 nicely arranged demos, two of popular classical works (Brahms' "Hungarian Dance No. 5 in G Minor" and Strauss' "The Blue Danube") and three modern compositions from Japanese composer Naoko Mikami. These demos, which are available on Edirol's web site in MP3 format, are provided in MIDI Type 1 file format and Cakewalk SONAR 1.0 format (which can also be read by later versions of SONAR as well as various other lower end Cakewalk products), and provide not only a convincing demonstration of Orchestral's capabilities (and some pleasant listening to boot), but also some examples to allow analyzing how various instrumental techniques can be achieved.

The retail version of Orchestral, which lists for \$385 (street prices I found in a quick search ranged from \$289 to \$349), also includes a copy of Cakewalk's Music Creator 2002, but that software was not supplied with the review copy, so will not be considered here. However, for those readers who are not already using SONAR or other Cakewalk, more information on Music Creator can be found on Cakewalk's web site.

Sure, all that sounds good on paper -- er, onscreen -- but let's get our hands dirty, shall we?

Software Protection and Installation

Installation was fairly straightforward -- go to the appropriate directory on the CD, depending on whether you want to install the DXi2 or VST version, then run the Setup program in that directory. The installation could have been further streamlined via an AutoRun facility, like most Windows software programs provide, for example providing menu picks to allow choosing which versions to install. However, this is a minor niggle, and may even save advanced Windows users a bit of time.

Software protection is via a CD-Key and Orchestral's insistence on your inserting the original CD, which is manufactured in such a way as to not be copyable, every 14 days (or the first time you use it thereafter) upon demand. While this protection method has some advantages over, for example PACE's InterLok, such as not needing any vendor intervention to reauthorize after replacing a hard disk, it also has some disadvantages that may be significant for some users. In particular, there is no guarantee the time at which the authorization is needed will be convenient, and there is no grace period, such as needing to authorize within a week.

This means for example, that the musician thinking of using Orchestral for live performance will need to bring his or her original CD with him in case the authorization is needed at the performance site. I don't know about you, but I would never want to bring original software CDs with me on the road -- there is too great a danger of accidental loss. It is less of an issue for those who will use it in the studio, but it does mean needing to keep the original

installation CD nearby at all times (or at least every two weeks if you can remember when the 14 days will run out), in case it is needed during a session.

Documentation

Orchestral itself includes no paper documentation whatsoever (the retail version does include a small paper manual on Music Creator 2002), and the installation CD-ROM includes only relatively brief English and Japanese "Read Me" notes in the main directory and licensing terms in the plug-in-specific subdirectories. None of these documents actually describe the installation procedure, but the use of a Setup program is common enough in Windows that this won't likely pose problems for experienced Windows users.

Once the product is installed, there is an extensive on-line Help file, which can be accessed either by pushing a "Help" button in Orchestral's user interface or from your Windows Start menu. In both cases, it will bring up your web browser to peruse the document, and anyone familiar with browsing the World Wide Web should have no problem navigating the document.

The actual on-line documentation is extremely thorough. It starts out with a product overview and basic introductory information such as how to select sounds and use basic playing techniques, and progresses fairly rapidly toward more advanced uses and playing techniques, editing sounds and more. It doesn't stop there, though. There are also detailed references for each of the screens, or "panels" as Edirol calls them, information on how to save and load user sounds, technical and technique-oriented information on how to use automation, a complete list of all the sounds, including useful descriptions that go beyond just names of sounds, a troubleshooting section, and even a detailed MIDI Implementation Chart of the sort found in the documentation for hardware-based MIDI modules. Kudos go to Edirol for the thoroughness of this documentation, as well as making it usable for both getting started out and for more advanced users. It is particularly nice having such detailed on-line help available for those times when we are in the middle of something and need to get an answer "now".

Getting Started - Picking the Players and Venue

When Orchestral is first instantiated in a project, its Conductor Panel, or main window, comes up with a set of instruments, panning positions, and effects settings suitable for general orchestral styles. However, in most cases, the first thing you, as a user, will want to do is to pick the instruments appropriate to your specific project.

There are two key ways to pick the instruments you need, or "tones", as Edirol calls them:

If you want complete control, you can pick the tone for each part directly, setting volume and pan settings for each individual part via the sliders and knobs, respectively, provided for these purposes. To pick the tones, you can either scroll through values one by one, pick the parts from a cascading menu system organized by section, or bring up Orchestral's Tone Finder Panel. The first two choices are fairly self-explanatory, but the Tone Finder deserves a bit of elaboration.

The Tone Finder Panel makes things especially convenient if you don't yet have enough experience with Orchestral to be positive which specific sound you need from the tone's name alone. The tones are grouped by general sound category (e.g. solo strings, string sections, solo brass, brass sections, etc.), which isn't all that different from the menu categories mentioned above, except that it saves holding the mouse in one place while making up your mind.



What is new, though, and relatively unique among softsynths in general, is a Preview button that lets you audition any selected sound with a musical passage appropriate to that instrument. Similar tones use the same passages so you can hear the fine, or in some cases not-so-fine, nuances between tones. Given that most of these preview passages are from popular classical pieces, this facility also provides a degree of "fun factor". It's also a good way to waste a bit of time if you're in the mood for procrastination.

If you're picking instruments directly, you will probably also want to pick the, er, venue directly. Okay, there really isn't a literal "venue" selection anywhere in *Orchestral*, but the Conductor Panel also is the place where you can pick general effects settings -- i.e. Reverb and Chorus/Delay -- and the reverb is, perhaps obviously, the key component of *Orchestral* that affects the ambient space into which you place your "players". We'll get into the effects in more depth below.



If you don't need all this control, or what I described above sounds tedious when you think about setting up a whole orchestra or other stylistic grouping, *Orchestral* provides a convenient shortcut, called *Orchestra Style*. Just press the "Style" button in the Conductor Panel, and up pops the *Orchestra Style* selector window, with a style selection box containing descriptive names such as Full Orchestra (there are four variations of this one), Baroque, Concerto, String Quartet, and more. Even more useful, once you select a style, you will see a graphic representation of the instruments and layout comprising that style, and there is a "Preview" button that lets you hear a representative passage played by the instruments in that style.

More fun factor stuff, to be sure, but this can really be a time saver for getting off to a start. I only wish there were also a facility to let users save their own styles for cases where a user has frequently used configurations that aren't covered by the canned styles. Mind you, there are other ways for users to save commonly used configurations -- both in *Orchestral's* "Performances", which are essentially plug-in wide presets that can be used in multiple DAWs, and in DAW-specific DXi preset names -- but the visual aids, and convenient access of the *Orchestral Style* panel are particularly useful.

Besides selecting tones, initial volume settings, and initial pan settings, choosing an *Orchestra Style* also sets up initial, compatible effects settings. For example, choosing the String Quartet style selects the Chamber 2 reverb preset, while choosing the Baroque grouping selects the Baroque reverb preset. For my purposes, the *Orchestra Styles* are a big timesaver -- just select a compatible grouping, make minor tweaks if need be, then start making music!

Choices are Good

There are two basic types of MIDI instrument players:

The first is one who just wants to make music, and gets impatient with anything that goes much beyond picking a sound or three and sitting down and starting to play. What we've talked about to this point, especially the *Orchestra Style* selection, should make this first type of player happy.

The second type wants control over everything. This player would never even think of using a preset as is, and wants to tweak everything from the instruments selected to the EQ on those instruments to the reverb's pre-delay time and high frequency damping. This section is where we talk about what *Orchestral* has to offer these players.

Oh yeah, and there is a third type of player, too. The third type is one that is in the process of going from one of the first two types to the other -- i.e. either the ex-"set it and forget it" type who is starting to develop more and more refined tastes for what he or she likes and now wants more control, or the reformed tweaker who is reexperiencing the joys of just making music. Of course, some of the players in this group are in a continual state of yo-yoing between the two types. I think that probably best describes where I fit, though I tend to spend more time in the "set it and forget it" column when it comes to sounds.

So, what kinds of choices are available to users of *Orchestral*?

Perhaps the most basic choice, beyond which instrument sounds to use, is the selection of which audio output(s) to use. *Orchestral* provides up to four audio outputs which can serve as inputs for your DAW. (Note: This capability requires SONAR 2.0 or later, or other DAW hosts that support DXi2 or VST 2.0. In particular, the multiple output capability is not available to SONAR 1.x users.)

Selecting which output to use for each part couldn't be easier -- just bring up the Output Selector panel, and press the appropriate output's button next to each instrument part. For those who don't even want to go to that much work, Orchestral defaults to using the first output for all instruments, but it is extremely quick to change output selections for those who want additional control.



Those who like to process all instruments individually, may be noting the difference between Orchestral's 16 parts and only 4 outputs. This probably won't be a big issue for orchestral music, but may be more of a concern for those who want to use the sounds as building blocks for further creative processing outside of Orchestral. In that case, the solution would be to use multiple instances and fewer parts per instance.

At the system level, Orchestral provides control over master tuning in 0.1 Hz increments between A equals 415.3 Hz and A equals 466.2 Hz. The default is A equals 440 Hz. A Tune/Key Shift knob is also provided to allow transposing Orchestral up to two octaves up or down. While this control may seem redundant with the controls already provided in MIDI sequencers, it could be a timesaver in cases where you want to transpose an entire piece, and don't want to bother setting individual transpositions for up to 16 MIDI tracks.

Also at the system level, Orchestral provides the capability of loading and saving presets for User tones, Performances, Chorus Presets, and Reverb Presets. For users who have special, but recurring, needs that go beyond the Orchestral Style presets, these capabilities can be a timesaver for setting up Orchestral for applicable projects.

All this is good stuff, but the diehard tweakers who are reading this are probably still wondering what's in it for them, having only been teased thus far by the above note about saving presets. So, without further ado, lets move into more advanced tweaking territory.

Fine Tuning

Okay, so there's this nice violin section sound with the right kind of bowing for the segment of the project in question, but the tone isn't quite what you want. Maybe it's a little too bright or too dark, or maybe it's not the tone at all, but rather that you want a particular phrase to have the violin "players" slide from note to note, rather than cleanly play half steps, or you want the vibrato timing and depth to be a little different, or ... -- well, you get the picture. Or perhaps that snare drum needs to be tuned a little higher, and needs a bit more ambience than the bass drum needs.

For these needs, and many more, Orchestral can oblige. Each of Orchestral's 16 parts will have an associated editor. If the part is other than a "rhythm set" (i.e. a single part that has different percussive instruments on each note), the Normal Part Editor pane will be used. Rhythm sets have an associated Rhythm Part Editor pane instead. Orchestral keeps track of which is needed based on the tone selected for each part.



The Normal Part Editor will look reasonably familiar to anyone who has ever worked with an analog synthesizer. Some of the controls bear familiar names, such as the Envelope controls (Attack, Decay, and Release) and Filter controls (Cutoff and Resonance). Others are similar, but more closely tied to Orchestral's orientation. For example, instead of LFO controls, there are Vibrato controls, but with very similar individual control names (i.e. Rate, Depth, and Delay).

At the top of the Normal Part Editor, you'll see controls reminiscent of Orchestral's Conductor panel (Tone selector, Volume fader, and Pan knob), as well as a Preview button (as in the Tone Finder), Write button (to store your changes in a User preset), and Reverb and Chorus level controls for the part. There is also a Part Number control that makes it easy to change which part you are editing without having to go back to the Conductor panel.

The main body of the Normal Part Editor is dedicated to controls which affect the nature of the sound and its playing characteristics. Starting from the top left, the controls are:

A Solo button toggles whether Orchestral works in monophonic mode (i.e. for a solo instrument). If it is in mono mode, then a Retrigger control dictates whether sounds are restarted on legato playing (you will probably want to leave this off for more realistic string and wind parts).

A Velocity Switch Sensitivity control alters the threshold at which key velocity begins triggering louder sounds, where using low or high extremes can prevent velocity switching altogether.

Envelope controls (Attack, Decay, and Release) are as for the common synth controls of the same names.

Velocity Sensitivity controls (Attack, Dynamics) determine how sensitive the attack time of the envelope and volume or tone quality of the sound are to MIDI velocity.

A Character dial, changes the character of the harmonics to shift between muffled and reedy extremes and a range of points in between.

Filter controls (Cutoff, Resonance) are similar to the popular synth controls of the same name.

An EQ section, which can be bypassed, offers Low/Mid/High cut/boost controls.

Fine and Coarse Tuning controls provide part-specific tuning in units of cents and half steps, respectively.

Vibrato controls (Rate, Depth, Delay) allow controlling the speed and depth of the vibrato, as well as how long after a note starts vibrato begins. They are not used, however, on sounds that support Orchestral's Advanced Vibrato (see below) via the mod wheel.

Random Modulation controls (Rate and Depth) control the rate and depth of random modulation that is applied to the sound.

A Portamento section includes an on/off toggle and a Time control to determine how long it takes to glide from one note to the next note if Portamento is engaged.

A Pan Key Follow control determines if, and by how much, sounds are panned left or right based on their notes' position on the keyboard, for example to get a close up stereo perspective with a piano patch.

A Modulation Depth control determines the depth of modulation that occurs when the mod wheel is used on a sound that does not support Advanced Vibrato via modulation.

The Bend Range Control specifies the maximum pitch bend that will be applied when the pitch wheel or lever is engaged.

A Scale Tune button brings up a Scale Tune panel with numerous tuning standard presets (Equal Temperament, Werckmeister, Kirnberger, Valotti/Young, Meantone, Pythagorean, and Just Major and Minor), while also allowing you to configure your own custom tuning. Want to configure a badly tuned piano or emulate a beginning violinist? Try starting with equal temperament, then randomly tweaking the individual scale notes.

Finally, at the bottom of the Normal Part Editor is a keyboard diagram that highlights the optimal range of the instrument. When MIDI sequences are playing through Orchestral, it puts red dots on each note as it plays, so it is easy to see at a glance if your arrangements are sticking to the instrument's natural range. Of course, when playing Orchestral itself, there is nothing to prevent you from using something other than the instrument's natural range.

Orchestral's Rhythm Part Editor is used instead of the Normal Part Editor when editing a part that uses a rhythm set -- i.e. an Orchestral part that puts different instrumental sounds (most generally drums and other percussion instruments, though there are a few exceptions) on each note. The name is slightly misleading in that you aren't actually editing rhythm parts in an arrangement, but rather the tone and other aspects of rhythm instruments within one of Orchestral's 16 "parts".



The top section of the Rhythm Part Editor is identical to the top section of the Normal Part Editor, so I won't be redundant. On the right hand side of the lower portion of the Rhythm Part Editor are an EQ section and a Velocity Sensitivity Dynamics knob, which behave as described above for the equivalent controls in the Normal Part Editor, and are applied at the Part level.

The remaining controls in the Rhythm Part Editor, which are found in its lower left hand portion, apply to each individual note, or tone, in the rhythm set. Those controls include volume Level and Pan position controls, Coarse and Fine tuning controls, and Reverb and Chorus/Delay level controls.

Effects

Speaking of Reverb and Chorus/Delay, I'm not generally a big fan of built-in effects in softsynths -- I figure I can often get better sound, and have more flexibility, using plug-ins at the DAW level -- and the notion of having effects in an orchestral context struck me as odd at first. That said, though, it's important to realize we are not dealing with real orchestral instruments and instrumentalists recorded in real acoustic spaces, but, rather, trying to simulate those via a mixture of sampling and synthesis. As such, and especially considering we will often be trying to simulate a relatively large ensemble with a smaller number of actual played parts (e.g. trying to simulate a large orchestra with 16 polyphonic MIDI parts), Orchestral's two built-in effects devices can go a long way toward expanding the size of the group of "players" and putting the ensemble in an integrated acoustic space, without the extra overhead of trying to do a similar thing at the DAW track level. Having that extra control and flexibility at the DAW level may be important for a relatively small pop ensemble, and it is available in Orchestral, too, as long as you don't mind using extra instances to go beyond 4 parts (i.e. due to the limitation to 4 outputs). However, for a larger ensemble, the price paid may be too high, not only in terms of the extra CPU power requirements for plug-ins and extra audio routing, but also due to the extra going back and forth between user interfaces, rather than simply staying within one tightly integrated softsynth module. Let's take a look at the individual effects modules.

Orchestral's Chorus/Delay does dual duty as a chorus or delay, but can only do one trick at a time. That is, you can use it as a chorus or as a delay, but you can't configure it to do both at once in a single instance of Orchestral. The interface to the module will change to reflect which mode you have configured at any given time.



The Chorus option of the Chorus/Delay module has all the controls one would expect in a chorus module, with a few extra niceties thrown in. A Pre-Delay controls the amount of time before the chorus effect kicks in, and is a fairly uncommon control, but also potentially useful for preserving initial attack transients while still fattening the overall sound. Modulation Rate and Depth controls serve their usual function. A Phase control, which is variable between 0 and 180 degrees controls the width of the stereo spread of the effect. A Feedback control sets how much of the effected signal is fed back to the effect. A Filter section provides the option of no filter, high pass filter, or low pass filter with a sweepable frequency, and is also a nice extra that many chorus effects do not provide. A Reverb Send level controls the amount of the chorus that is fed into the Reverb module -- another nice touch, though perhaps even more useful with the Delay option of the module. Finally a Level control governs how much of the Chorus effect is sent to Orchestral's overall mix.



The Delay option of the Chorus/Delay module provides separate Right, Left, and Center controls for Delay Time and Delay Level. Though the documentation indicates Delay Time is variable from 0 to 1,000 milliseconds, the software would only allow me to vary it from 200 to 1,000 milliseconds. (After querying Ediolr on this, it appears this may be a documentation bug.) The Delay module also has Feedback and High Frequency

Damping controls. The former does the obvious, and the latter, if engaged, rolls off high frequencies above the frequency set in the control, which can range from 200 Hz to 8,000 kHz. Finally, Reverb Send and Delay Level controls are provided and work similarly to what is described above for the Chorus option.

A subset of the Chorus/Delay module's controls are available directly in the Conductor Panel, as is an On/Off switch for the module. Both Reverb Send level and Chorus level, as well as the Preset picker are available directly in the Conductor Panel.

Orchestral's Reverb module provides Room, Hall, and Plate algorithms, along with a fairly full, but fairly standard, set of reverb controls. Controls such as Pre-Delay, reverb Time, room Size, Density, and Diffusion, as well as Low and High Frequency Damping controls each with sweepable Frequency and variable Level of damping, are fairly self explanatory. A High Cut filter provides a sweepable frequency above which high frequency content is filtered out if the filter is engaged. There is also a Level control, which is also available, along with an On/Off switch for the Reverb and a preset picker, in the Conductor panel.



The Living, Breathing Orchestra

All these controls for sound shaping are nice for those who want the tweaking power, and those who just want to "set it and forget it" can go for either instant satisfaction (e.g. pick a style and play) or tweak until their heart's content. What about those, though, who want to go the extra level, to simulate the kinds of changes that real players make in real time?

Good news! Most everything you can do in Orchestral's user interface can also be automated, though not all parameters are configured for automation by default. Most are, but I suspect there just aren't enough parameters to go around when you consider that each rhythm set note could have up to 5 (unless I've missed some) automatable parameters, thus quickly overwhelming the number of control change assignments available for that MIDI channel.

Perhaps the easiest way to get automation data into Orchestral is to arm the MIDI track you want to automate for recording, making sure you are recording in sound-on-sound mode (i.e. in SONAR -- if you're using another DAW, this means a recording mode that puts the recorded data on a track without disturbing the data, such as MIDI notes, that are already there), then hit Record, and make any movements you want to make in the user interface in real time, making several passes if need be to get all the automation you want on there. This is assuming, of course, that the knobs you want to turn are set up for automation. If you aren't sure, right click on the knob, and its MIDI channel and the knob's control change assignments will be shown (and made available for tweaking).

If you're a mouse klutz, though, or just would prefer to be a bit more calculating in your automation assignments, you can also use SONAR's track envelopes to set up the changes, and the list of available parameters will even show you the names of parameters that are available for automation this way. This may make for easier editing later as the method I mentioned above records the automation as discrete MIDI events, not as envelopes. However, it also means not being able to just use the user interface of Orchestral to get the initial data in there.

Speaking of getting that initial automation data down, Orchestral also has the ability to be automated via a MIDI keyboard or control surface. Since it is unlikely that the hardware will come preprogrammed for Orchestral support, Orchestral has been designed with the ability to "learn" controller assignments. Just right click on the knob or other control you want to automate, click the "learn" box in the controller assignment dialog, and then move the controller in question. Orchestral will sense which controller is being moved and assign the appropriate control change value and MIDI channel. This hardware control capability can be especially nice for "playing" subtle changes in real time, such as one might do for tone shaping (e.g. with the Character control or the filter's Cutoff and/or Resonance controls) or changing how Portamento is used (or not) during the course of a performance.

Playing the Sounds

For an instrument like Orchestral, which is aimed primarily at emulating the sounds of real instruments, especially in

the context of a potentially exposed setting, such as with classical or screen music, the quality and believability of the sounds is critical. Another key consideration is how well those sounds lend themselves to intuitive playing techniques since not everyone will have the time or patience for automating every little nuance. So, let's take a look ... er, listen.

Strings come in both solo and section flavors, with the sections including both individual instruments and various combinations of instruments up to full string sections. There are 34 types of string sections and 30 types of solo strings. The sections include several variations (e.g. fast attack, slow attack, spiccato, pizzicato, and tremolo) of the bowed instruments, with the solo instruments also including similar, but not identical, variations. The solo strings also include harps.

Edirol provides an Advanced Vibrato for both sections (velocity-switched only) and solo strings (velocity switched or controlled via mod wheel). Instead of relying on an LFO to introduce programmatic pitch variations, Orchestral's Advanced Vibrato mode switches between non-vibrato and vibrato samples, thus providing greater realism.

All strings are immediately playable, and the various methods for controlling vibrato with the bowed strings should find at least one method that suits a given player. Switching articulations, for example between normal playing and spiccato or pizzicato, is fairly easily and intuitively accomplished via program changes.

My only minor niggle on the playability front is that I'd prefer if there were a consistent layout of articulation types across my keyboard's set of program change buttons, such that, for example, spiccato was always button number 5 in each bank of 8 program change buttons, with the banks (i.e. of program change keys, not literal MIDI bank changes) being used to switch instruments (or section types).

I should explain: My Roland MK-80 controller keyboard was designed with 8 instruments with 8 variations apiece, covering MIDI program changes 1-64. Thus, if, say, violins were bank 1, violas were bank 2, and so on, and, for each instrument, spiccato was in position 5 of the bank, pizzicato was in position 7 of the bank, etc., switching could become pretty intuitive with a little practice. However, there aren't the same number of articulations for each instrument, no less 8 articulations for each type, and there are no blank program numbers to force alignment of what is there. Of course, Edirol couldn't predict what keyboard I, or anyone else, would be using, so I can't complain too much, and the better news is that I can always use the user patches to realign patches however I want to if I find doing so would dramatically improve the intuitiveness of switching articulations in real time.

The point is, though, I find program changes to be a very intuitive way of switching articulations, at least on my keyboard (I'd hate to have to do it on a controller that only has dials, or increment/decrement buttons, for making program changes). With a bit of tweaking, which is well within reach in Orchestral, it could become even more intuitive. To contrast, I've always found using MIDI notes for articulation switching very unintuitive, especially where it makes me play a note that doesn't go with the chord, or melodic passage, I'm playing, and I have to go against my musical instincts to change the articulation.

Orchestral provides 20 types of brass sections and 17 types of solo brass instruments. With the sections there are variations in tone, as well as playing variations such as trombone slides and French horn swells and rips. Noticeably missing are sforzando attacks, though it would be possible to emulate those through MIDI volume, and to actually play such attacks with a MIDI volume pedal or slide control on a MIDI keyboard. Besides the requisite trumpets, French horns, trombones (including bass trombones), and tubas, all of which are represented in both solo and section-level tones, Orchestral provides some extras on the solo side, including piccolo trumpet, cornet, flugelhorn, and euphonium. I'm a sucker for French horn sounds, and the variety and quality available in Orchestral made this particular set of sounds particularly enjoyable.

Over half of Orchestral's 27 types of woodwinds are variations of the flute family from piccolos to bass flutes, with vibrato and non-vibrato variants, as well as several of the instrument sounds with the mod wheel-induced Advanced Vibrato mentioned in the notes above on the solo strings. The oboe/English horn/bassoon family comprises much of the remainder of the tones, leaving 3 clarinet family tones, one of which is a bass clarinet, and a single alto saxophone. Given the solo and sectional representations in the string and brass families, it is somewhat surprising to

see only solo instruments, with the exception of two tones which layer flute and piccolo sounds, here. What is there sounds good and is highly playable, but this is the one key area where I felt more could have been provided, especially in the area of small groups of similar instruments. Large section-wide groups don't make as much sense with woodwinds as with brass and strings due to the much more significant tonal variations between instruments.

Orchestral provides a rich set of keyboard and percussion instruments, both of the chromatic pitched variety and of the non-pitched variety. The former group, which is comprised of 13 separate tones, includes piano, harpsichord, marimba (including bass marimba), xylophone, glockenspiel, and tubular bells, as well as timpani (including a dedicated timpani roll variation). The timpani is particularly playable, with one of its three variations' placing single hits and rolls a few octaves apart to make it possible to create realistic rolls while also providing more variety and accenting potential than a standard sampled roll would allow. All the instruments in this section are at least passable, though I would not be inclined to use the piano for solo work or highly exposed ensemble work. It can sit nicely in a mix, but doesn't have the harmonic richness of either a real acoustic piano or modern higher end sample sets such as GigaPiano.

The non-pitched percussion group includes most popular drums (e.g. bass drum, snare drum), cymbals (e.g. crash cymbals, gongs) and what I might loosely call "percussive toys" (e.g. triangle, castanets, wood block, etc.), organized into three percussion "kits". Of these, one is configured for orchestral use, one for marching band, and the other is a timpani "kit". On the surface, that last one seems redundant with the similarly organized variation of the timpani setup from the chromatic pitched percussion area. However, keeping in mind the flexibility offered in the Rhythm Part Editor (see above), this setup offers additional tweaking potential, for example, to pan different timpani notes different ways, augment the kit with additional drums, and so on.

Within each kit, the individual instrument variations are organized for playability, with groupings by instrument type, rather than according to General MIDI conventions. In some contexts, I might consider that organization to be a limitation, but not here. If you want to play back General MIDI sequences, you are better off with a General MIDI module. Orchestral is much more specialized, opting for realism and playability over compatibility with canned sequences.

Closing Notes

There is a lot of power and flexibility in Edirol's Orchestral -- something one might expect given its Roland lineage - - but the reason I've grown to like it so much in the relatively short time I've been working with it doesn't have much to do with that. The reason Orchestral has quickly become one of my favorite softsynths is because it is fun to just sit down and play. I'm not much of a sound tweaker. I want to make music, and Orchestral not only lets me do that easily, but also yields very nice results without a big learning curve featuring lots of unintuitive playing techniques. In many cases, those results may be good enough for my purposes, but it is comforting to know that, if I want to go even further in simulating real players, the power is there to do that, and I can work on doing that without having to scrap the initial parts I've laid down.

With a street price range starting at just under \$300 on the low end, Orchestral isn't exactly bargain basement stuff. Looking back just a few years, though, to the kind of hardware solutions that would have been needed to accomplish something similar, or even at the prices of some of the high end sample collections some would use today, it would be hard to argue that Orchestral's price point is unreasonably high. In fact, it might even seem like a bargain compared to a sample library going for 5 times its price. Sure, the sample libraries in that range might have even more power, but I have to wonder, with all their gigabytes of sample variations, how long it takes to even choose sounds, no less just lay down a part for instant gratification, then tweak only what actually needs to be tweaked, rather than because tweaking is a fact of life with a more complex product.

A decided "thumbs up" to Edirol for Orchestral. And now I can't wait to do some air conducting!

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